

REMARKS

Claims 50-53, 55-63 and 65-71 are pending, wherein Claims 50, 58 and 65 are amended and Claim 64 is canceled. Reconsideration of the February 20, 2003 Official Action is respectfully requested.

Initially, the amendments to Claims 50, 58 and 65 do not raise any new issue that would require further search and/or consideration by the Patent Office, as the amendments merely clarify previously recited features of the claimed invention. Furthermore, the amendments place the application in better form for appeal, and do not present any additional claims. Accordingly, it is respectfully requested that the amendments be entered.

Claims 50-53, 55-58, 60-62 and 64-71 were rejected under 35 U.S.C. § 102(a) over U.S. Patent No. 5,522,934 to Suzuki et al. ("Suzuki"). The reasons for the rejection are stated at pages 2-3 of the Official Action. The rejection is respectfully traversed for the following reasons.

Independent Claim 50, as amended, recites an inductively coupled plasma processing system, which comprises, *inter alia*, "a substrate holder supporting a substrate having a periphery within said processing chamber . . ." and "a process gas distribution system for introducing a process gas into said processing chamber, the process gas distribution system comprising injectors at least some of which direct the process gas along axes that intersect an exposed surface of the substrate at an acute angle, all of the injectors of the process gas distribution system being spaced outwardly from the periphery of the substrate". The amendments to Claim 50 clarify that the previously recited term "each"

means "all" within the context of the recited combination of features. Accordingly, Claim 50 recites that all of the injectors of the process gas distribution system, which introduces process gas into the processing chamber, are spaced outwardly from the periphery of the substrate. The recited gas distribution system does not include any injector that is not spaced outwardly from the substrate periphery. For reasons stated below, Suzuki does not disclose the combination of features recited in Claim 50.

The Official Action asserts that Suzuki teaches "[a] process gas distribution system (Figure 11; column 10, lines 33-43) for gas introduction into the process chamber (4, Figure 8). The process gas distribution system comprising injectors (64B of 56B; Figure 8, 11) with orifice (58B; Figure 9, 11) which direct the process gas along an axis that intersects the substrate at an acute angle, each of the injectors being spaced outwardly from the periphery of the substrate (Figure 8, 11)" (underlining omitted, emphasis added). However, Suzuki does not disclose or suggest a process gas distribution system including injectors all of which are spaced outwardly from the periphery of a substrate supported on a substrate holder, as recited in Claim 50.

The Official Action cites to Figures 8 and 11 of Suzuki for allegedly supporting the assertion that Suzuki teaches the feature of "each of the injectors being spaced outwardly from the periphery of the substrate". However, Figure 8 of Suzuki clearly does not show a gas distribution system including injectors that are all spaced outwardly from the periphery of a substrate. Figure 8 shows a substrate W, and a gas supply head 54 including source gas supply paths 56A, 56B with process gas injection holes 58A, 58B, respectively, and additive gas supply paths 60 with additive gas injection holes 62. However, in the gas

supply head 54, at least the additive gas supply paths 60 are spaced within (i.e., not spaced outwardly from) the periphery of the wafer.

Figure 11 of Suzuki shows an embodiment of the gas supply head 54 including source gas supply paths 56A, 56B with process gas injection holes 58A, 58B, respectively, and additive gas supply paths 60 with additive gas injection holes 62. Figure 11 does not show a wafer. Moreover, Suzuki does not disclose or suggest that all of the gas supply paths 56A, 56B, and the additive gas supply paths 60 of the illustrated gas supply head 54 are spaced outwardly from the periphery of a wafer supported on a substrate holder. Accordingly, Suzuki fails to disclose or suggest the combination of features recited in Claim 50, which is thus patentable over Suzuki.

Claims 51-53, 55-57, 60-62 and 71 also are patentable over Suzuki for at least the same reasons as those stated for Claim 50.

Independent Claim 58, as amended, recites an inductively coupled plasma processing system, which comprises, *inter alia*, "a substrate support supporting a substrate having a periphery within the processing chamber" and "a process gas distribution system . . . including injectors at least some of which direct the process gas along axes that intersect an exposed surface of the substrate at an acute angle, all of the injectors of the process gas distribution system being spaced outwardly from the periphery of the substrate" (emphasis added). Claim 58 also is patentable over Suzuki for reasons stated above.

Independent Claim 65, as amended, recites the features of "a substrate support supporting a substrate within the processing chamber, the substrate having a periphery" and "a gas supply . . . including injectors at least some of which direct the process gas along

axes that intersect an exposed surface of the substrate at an acute angle, all of the injectors of the gas supply being spaced outwardly from the periphery of the substrate" (emphasis added). For reasons stated above, Suzuki also fails to disclose or suggest the combination of features recited in Claim 65. Thus, Claim 65 also is patentable over Suzuki.

Claims 66-70 depend from Claim 65 and thus also are patentable over Suzuki for at least the same reasons as those for Claim 65.

Withdrawal of the rejection is therefore respectfully requested.

Claims 59 and 63 were rejected under 35 U.S.C. § 103(a) over Suzuki in view of U.S. Patent No. 6,143,078 to Ishikawa et al. The reasons for the rejection are stated at numbered paragraph 4 of the Official Action. The rejection is respectfully traversed for the following reasons.

Ishikawa issued from U.S. Patent Application No. 09/191,364, which was filed on November 13, 1998. However, the present application is a Rule 53(b) divisional application of U.S. Patent Application No. 08/772,374, which was filed on December 23, 1996. Accordingly, because the present application has an effective filing date before November 13, 1998, Ishikawa does not qualify as prior art against the present application under 35 U.S.C. § 102. Therefore, the rejection is moot.

For the foregoing reasons, withdrawal of the rejections and prompt allowance of the application are respectfully requested.

Respectfully submitted,

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